

3.2 Medical Requirements Overview**TABLE 3.2: MEDICAL REQUIREMENTS OVERVIEW**

MRID# and Title:	MR029L Pre- and Postflight Pulmonary Assessment
Sponsor:	Medical Operations
IPT:	Therapeutics and Clinical Care
Category:	Medical Requirements (MR)
References:	Astronaut Medical Operations Requirements Document (AMERD), JSC 24834 Appendix B Section II Initial Selection Requirements: 2.8.b Pulmonary function tests, standard Spirometry, and diffusion capacity Appendix B Section III Annual Medical Evaluation Requirements: 3.6.b Pulmonary function tests, standard Spirometry, and diffusion capacity Appendix B Section V Pre- and Postflight Medical Evaluation Requirements for Long Duration (30 Days or More) Flights: 5.1.c.7.b and 5.2.b.5.a Pulmonary function tests, standard Spirometry, and diffusion capacity
Purpose/Objectives:	To assess pulmonary function pre- and postflight.
Measurement Parameters:	Lung volume and diffusion capacity
Deliverables:	Pre- and postflight pulmonary function test reports will be included in the crewmember's medical record and archived in the Crew Medical Information System (CMIS).
Flight Duration:	≥30 days
Number of Flights:	All ISS flights
Number and Type of Crew Members Required:	All ISS crewmembers: Primary and backup crews will participate pre- and postflight. Both the primary and backup crews will continue to participate in the R+3 activity until enough population data has been collected and analyzed, at which time the need for this requirement will be re-evaluated.
Other Flight Characteristics:	N/A

3.3 Preflight Training: None**3.4 Preflight Activities****TABLE 3.4: PREFLIGHT ACTIVITIES**

Preflight Activity	Description:	A preflight assessment of pulmonary function will be conducted using Spirometry.			
	Schedule:	Duration:	Schedule:	Flexibility:	Personnel Required:
		Pulmonary Function Test (Spirometry) 15 min.	Date of annual physical	Test may be conducted within 30 days of birth month.	Crewmember and Respiratory Technician
Ground Support Requirements Hardware/Software	Preflight Hardware:	Preflight Software:		Test Location:	
	Spirometer and associated disposables		N/A		U.S./Russia
Testing Facilities	Minimum Room Dimensions:	Number of Electrical Outlets:		Temperature Requirements:	Special Lighting:
	8' x 10'	(3 minimum) 110V U.S 220V Russian		Ambient	N/A
	Hot or Cold Running Water:	Privacy Requirements:		Vibration/Acoustic Isolation:	Other:
	Hot and cold	Room free of distraction		N/A	Table and chairs
Constraints/Special Requirements:	N/A				
Launch Delay Requirements:	N/A				
Notes:	This Spirometry test is conducted as part of the crewmember's annual physical and is not an additional test. Data from this test establishes the crewmember's baseline.				
Data Delivery	Data/Report to Designated Recipients (Nominal/Contingency):				
	Preflight pulmonary function results are handled directly through the clinic and will be included in the crewmember's medical record, then archived in CMIS within 14 days of completion of the test.				

3.5 In-flight Activities : None

Postflight Activities**TABLE 3.6: POSTFLIGHT ACTIVITIES**

Postflight Activity	Description:	A postflight assessment of pulmonary function will be conducted using Spirometry			
	Schedule:	Duration:	Schedule:	Flexibility:	Personnel Required:
		Pulmonary Function Test (Spirometry) 15 min.	R+3	N/A	Crewmember and Respiratory Technician
Ground Support Requirements Hardware/Software	Postflight Hardware:	Postflight Software:		Test Location:	
	Spirometer and associated disposables	N/A		U.S./Russia	
Testing Facilities	Minimum Room Dimensions:	Number of Electrical Outlets:		Temperature Requirements:	Special Lighting:
	8' x 10'	(3 minimum) 110V U.S. 220V Russian		Ambient	N/A
	Hot or Cold Running Water:	Privacy Requirements:		Vibration/Acoustic Isolation:	Other:
	Hot and cold	Room free of distraction		N/A	Table and chairs
Constraints/Special Requirements:	N/A				
Notes:	N/A				
Data Delivery	Data/Report to Designated Recipients (Nominal/Contingency):				
	Postflight pulmonary function results are handled directly through the clinic and will be included in the crewmember's medical record, then archived in CMIS within 14 days of completion of the test.				

3.7 Summary Schedule**TABLE 3.7: SUMMARY SCHEDULE**

ACTIVITY	DURATION	SCHEDULE	FLEXIBILITY	PERSONNEL REQUIRED	CONSTRAINTS
Preflight Training : None					
Preflight Activity					
Pulmonary Function Test (Spirometry)	15 min.	Date of annual physical	May be conducted within 30 days of birth month.	Crewmember and Respiratory Technician	This Spirometry test is conducted as part of the crewmember's annual physical and is not an additional test. Data from this test establishes the crewmember's baseline.
In-flight : N/A					
Postflight Activity					
Pulmonary Function Test (Spirometry)	15 min.	R+3	N/A	Crewmember and Respiratory Technician	N/A
Postflight Debrief: N/A					